

**Leon County  
Solid Waste Management Facility  
Leon County, Florida**



**Landfill to Park Conversion  
Opportunities and Constraints Report**

**February 9, 2004**

**Prepared By:**

**PBS&J**

**Prepared for:**

**Leon County Public Works  
Solid Waste and Recycling Division**

**Leon County, Florida**

**LEON COUNTY  
SOLID WASTE MANAGEMENT FACILITY  
LEON COUNTY, FLORIDA**

**LANDFILL TO PARK CONVERSION  
OPPORTUNITIES AND CONSTRAINTS REPORT**

**TABLE OF CONTENTS**

<b>SECTION 1.0</b>	<b>INTRODUCTION/PURPOSE.....</b>	<b>1</b>
<b>SECTION 1.1</b>	<b>EXISTING LANDFILL DESCRIPTION.....</b>	<b>1</b>
A.	Facility Description .....	1
B.	Scale House .....	1
C.	Class I Disposal Area .....	4
D.	Class III Disposal Area .....	4
E.	Household Hazardous Waste Center .....	4
F.	White Goods and Metal Storage .....	4
G.	Residential Drop-off Area.....	4
H.	Recycling Building .....	4
I.	Waste Tire Storage Area.....	5
J.	Yard Waste Processing Area .....	5
K.	Asbestos Waste Disposal Site.....	5
L.	Class III Landfill Operation .....	5
M.	Class III Landfill Operating Hours .....	5
N.	Designation of Responsible Person .....	6
<b>SECTION 1.2</b>	<b>LANDFILL CLOSURE AND LONG-TERM CARE ISSUES.....</b>	<b>6</b>
<b>SECTION 1.3</b>	<b>EXISTING SITE CONDITIONS .....</b>	<b>7</b>
<b>SECTION 1.4</b>	<b>OPPORTUNITIES AND CONSTRAINTS.....</b>	<b>9</b>
1.	U. S. 27 Access and Site Entrances .....	9
2.	On-Going Landfill Operations.....	9
3.	Closed Landfill Cells .....	10
4.	Vegetation.....	10
5.	Flood Plain Issues .....	11
6.	Drainage.....	11
7.	Adjacent Residential Development.....	11
8.	Land use and Zoning.....	11
9.	Utilities.....	12

<b>SECTION 1.5</b>	<b>PROGRAM OPPORTUNITIES .....</b>	<b>12</b>
<b>SECTION 1.6</b>	<b>CONCLUSIONS .....</b>	<b>12</b>
<b>FIGURE 1 - LOCATION MAP.....</b>		<b>2</b>
<b>FIGURE 2 - EXISTING OPERATION SITE PLAN.....</b>		<b>3</b>
<b>FIGURE 3 - OPPORTUNITIES AND CONSTRAINTS PLAN.....</b>		<b>8</b>

## SECTION 1.0 INTRODUCTION/PURPOSE

Leon County plans to develop an End Use Plan for the Leon County Solid Waste Management Facility prior to closure. The County is considering converting the landfill site to a County park to be operated and managed by the County Parks Division. The purpose of this report is to describe existing landfill operations and assess site opportunities and constraints for future recreation development at the landfill. In addition, program development opportunities were considered based on the recreational needs within the area, as well as coordination with Mr. Paul Cozzie, Leon County Director of Parks and Recreation. The final report will detail the opportunities and constraints for the site. This information will then be used by the Leon County Parks and Recreation Division, the Parks and Recreation Advisory Team (PRAT), and potential user groups in the development of an end use plan.

## SECTION 1.1 EXISTING LANDFILL OPERATION DESCRIPTION

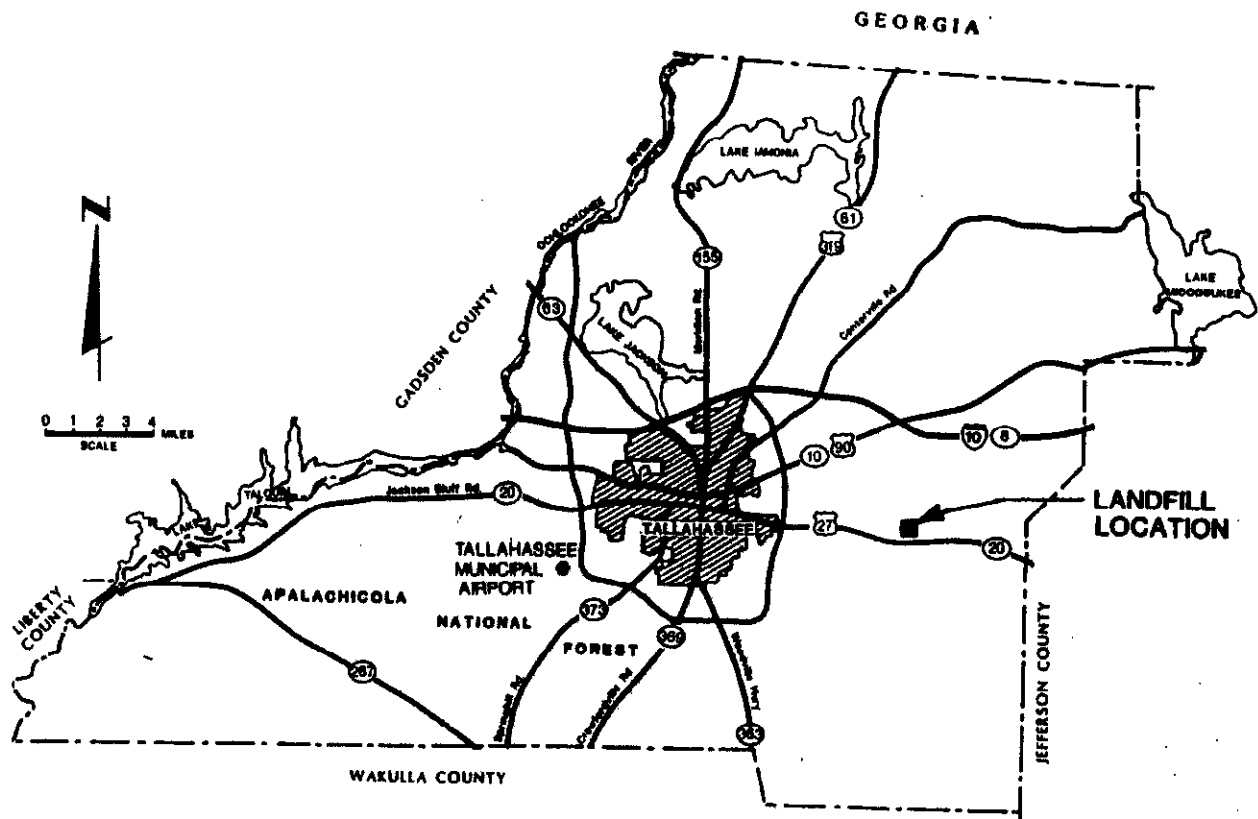
### A. Facility Description

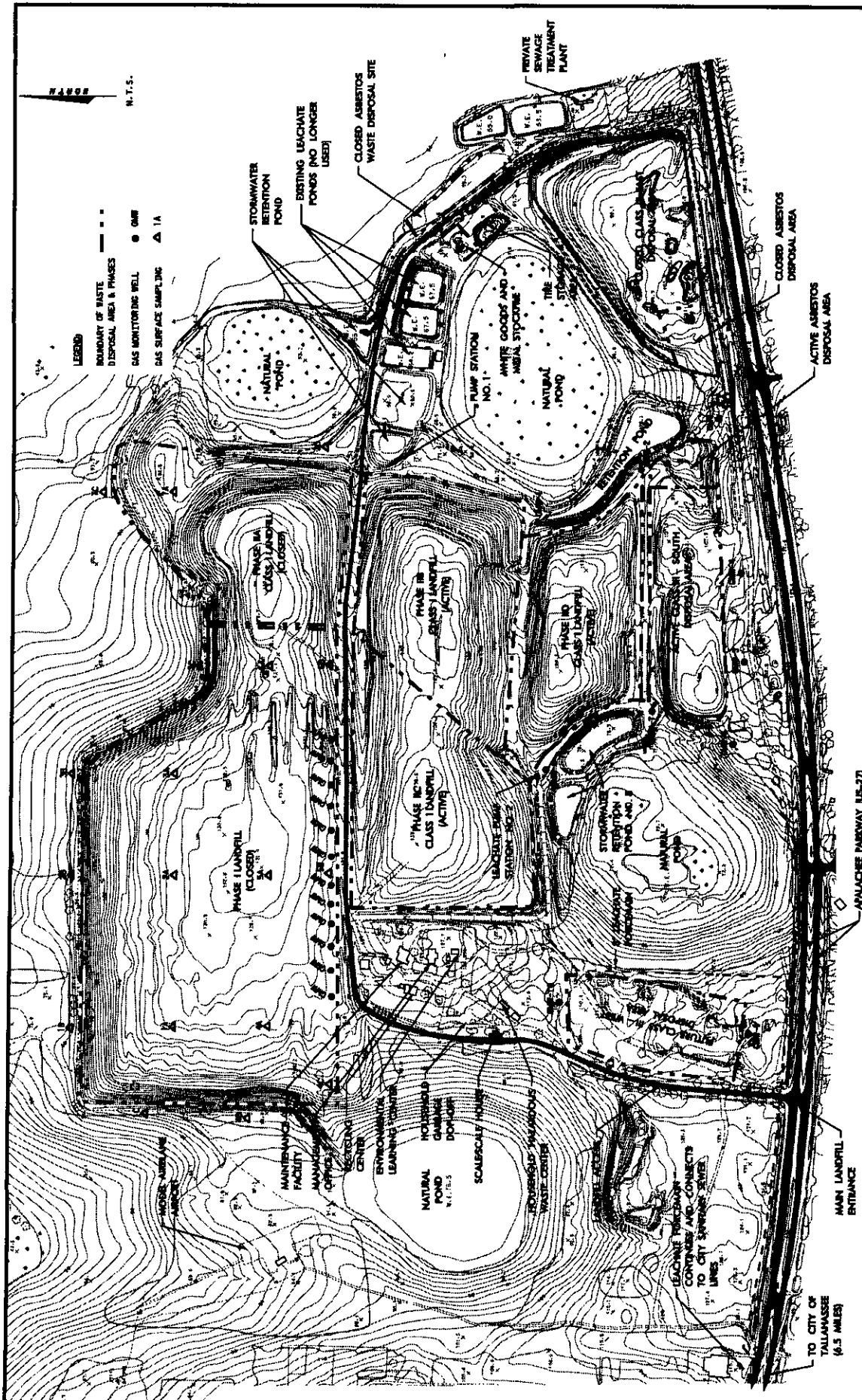
The Leon County Solid Waste Management Facility is located on ±600-acres in eastern Leon County as shown on Figure 1 – Location Map. As of October 2003, the facility had ±178 acres permitted for landfiling. Approximately 50 acres were being actively filled as a Class I landfill, and 12 acres were being utilized as a Class III landfill. However, in January 2004 the Class I landfill stopped accepting any household solid waste. In addition to the Class I and Class III landfills, the Solid Waste Management Facility has designated areas for whole and shredded tires, yard waste, white goods, recycling, household hazardous waste, special waste and asbestos. The landfill has capacity for solid waste until 2015. After the landfill is full, it will take two years to close the landfill by constructing the cap. A discussion of existing facilities is presented in the following sections and the facility locations are shown on Figure 2, Site Plan.

### B. Scale House


The landfill's scale house contains a single Fairbanks scale, over which all vehicles entering the landfill site must pass. Vehicles that do not have a tare weight on file must also pass over the scale when leaving the landfill site. Scale house staff is familiar with most disposal vehicles entering the landfill, due to the regular use of the facility by a majority of the vehicles. Information regarding these vehicles is on file at the landfill, including the license number, tare weight and place of origin. Scale house operators visually inspect the trucks and question the drivers about the type of materials being transported to the landfill for disposal and the origin of these materials. Security cameras record all transactions. If the scale house operator determines that unacceptable material is being transported, the drivers are directed to transport the material to a proper off-site disposal facility, or are diverted to the Hazardous Waste Office for technical assistance. The Scale House Operator directs trucks carrying acceptable waste to the proper on-site location for disposal. The County provides drop-off containers beside the scale house for cardboard recycling.

Figure 1 - Location Map





## FIGURE 2

 <p> <b>PBS</b>            100 South 17th Avenue            Suite 200            Fort Lauderdale, FL 33305            Tel (954) 584-7995            Fax (954) 587-4000  <a href="http://www.pbs.org">www.pbs.org</a>            For advertising rates &amp; conditions            contact: 1-800-368-3779            © 1997 PBS. All Rights Reserved.         </p>	CL 0001	LEON COUNTY SOLID WASTE MANAGEMENT FACILITY	PROJECT	YEAR	ORIGINAL APRIL 2003 REVISED	JOB NO. 02-0000 DRAWN BY DESIGNED BY CHECKED BY D.C.	SHEET /
	SITE PLAN OPERATION PLAN PERMIT RENEWAL 2003	1. 2. 3. 4. 5.	DATE DRAWN BY APPROVED BY DATE				

**C. Class I Disposal Area**

The Leon County Solid Waste Management Facility was designed for approximately 142 acres of Class I Disposal Area. The Class I Disposal Area is comprised of five separate phases (I, IIA, IIB, IIC, and IID) as shown on **Figure 2 - Site Plan**. As of October 2003, Phases I and IIA, a total of  $\pm 92$  acres were closed. As of January 21, 2004 household solid waste is no longer landfilled on site. Phases IIB, IIC, and IID, a total of  $\pm 50$  acres is inactive. Household solid waste received at the landfill is taken to the transfer station.

**D. Class III Disposal Area**

Approximately 36 acres of the landfill site are designated for Class III disposal that are divided into three cells, as shown on **Figure 2 - Site Plan**. As of October 2003, approximately 14 acres are closed and  $\pm 12$  acres are open for Class III disposal. The next planned Class III cell is located to the west and is approximately 10 acres.

**E. Household Hazardous Waste Center**

Located directly east of the scale house is the Household Hazardous Waste Center that includes a convenient public drive through/drop-off area. Household hazardous waste is deposited at the center and is removed by independent contractors, and transported to permitted facilities located outside of the County.

**F. White Goods and Metal Storage Area**

A temporary storage area for white goods and miscellaneous ferrous metals is located at the site. An asphalt pad was constructed to contain any fluids or oils that may leak from the white goods or other metal encased items. Once the fluids have been removed and properly disposed, the white goods are placed in a separate pile for processing. Every three months, the County contracts with a local company to process, bale and haul the material to a steel mill for recycling.

**G. Residential Drop-off Area**

Cars, vans and pick-up trucks with small residential loads are directed to use open-top roll-off containers located near the scale house. The landfill operator is responsible for tamping the materials in the roll-off containers, as needed, to avoid spillage. The residential drop-off area is kept clean, so as not to attract vermin and vectors. Recycling containers are also provided at this location.

**H. Recycling Building**

The County recently completed construction of a new  $\pm 3,750$  sq. ft. building for electronic waste and cardboard recycling. The electronic waste is stacked on pallets and then loaded into trailers and shipped to a contractor for dismantling. The County also operates a cooperative program with Goodwill Industries Big Bend, which first attempts to re-use electronics and then delivers

obsolete electronics to the County's facility. The recycling building also contains a horizontal baler for cardboard recycling.

**I. Waste Tire Storage Area**

A paved area has been provided for the storage of waste tires. The County utilizes Greenman Technologies to remove waste tires from the area. The company responds on an as needed basis, using open-top trailers, which are loaded using the County's equipment.

**J. Yard Waste Processing Area**

A yard waste processing area is maintained within the landfill for vegetative waste collected in Leon County including the City of Tallahassee. Residents and commercial users can also bring yard waste and clean wood waste to this area. Yard waste and wood waste is processed on-site by a contractor utilizing both horizontal and tub grinders and screening machines. Large wood pieces and plastic bag residuals are transported off-site and used for fuel. The clean mulch is stored on-site and is available free to the public for the taking.

**K. Asbestos Waste Disposal Site**

Asbestos waste materials that are delivered to the County's Solid Waste Management Facility are disposed of in a designated asbestos area next to the active Class III disposal area per F.A.C. 62-701.520(3). At least 6-inches of cover soil is placed over the asbestos within 24-hours of disposal.

**L. Class III Landfill Operation**

Class III solid waste is delivered to the landfill by public and private vehicles. The Class III solid waste is dumped at the working face of the landfill, and the County uses heavy construction equipment to place and compact the waste.

**M. Class III Landfill Operating Hours**

Normal operating hours for the Leon County Solid Waste Management Facility are:

Monday through Friday	7 a.m. to 5:00 p.m.;
Saturday	8 a.m. to 5:00 p.m.; and
Sunday	9 a.m. to 6:00 p.m. (bagged household garbage only).

The facility is closed on the following holidays:

New Year's Day	Labor Day
Martin Luther King Day	Veteran's Day
Memorial Day	Thanksgiving Day & the following day
Independence Day	Christmas Day



**N. Designation of Responsible Person**

The designated responsible person for Leon County Solid Waste Management Facility is:

Mr. Jud Curtis, Solid Waste Director  
Leon County Department of Public Works  
Division of Solid Waste and Recycling  
7550 Apalachee Parkway  
Tallahassee, Florida 32304  
(850) 487-2890

All correspondence and inquiry concerning the Leon County Solid Waste Management Facility permits, management and operation are directed to his attention.

The County employs one on-site Superintendent and one Solid Waste Supervisor. Their names and contact information are as follows:

Mr. Gary Gayle, Solid Waste Superintendent  
Mr. Peter Fryson, Solid Waste Supervisor  
Leon County Solid Waste Management Facility  
7550 Apalachee Parkway  
Tallahassee, Florida 32311  
(850) 487-2890

**SECTION 1.2 LANDFILL CLOSURE AND LONG-TERM CARE ISSUES**

The active landfill will be closed according to F.A.C. Chapter 62-701.610 Closure Procedures. Landfill closure will require capping the solid waste and collecting and venting or flaring the landfill gas. The Class I landfill, which is the non-hazardous solid waste collected from residential, commercial, industrial and institutional sources, will be capped with a 40-mil polyethylene geomembrane liner. Then the liner will be covered with a minimum of two-feet of soil and a vegetative layer of grass sod. The Class III landfill, which consists of construction and demolition debris, yard waste, carpet, cardboard, furniture and other solid waste that does not produce contaminated leachate, will be capped with a two-foot layer of soil, followed by a vegetative layer of grass sod. In both Class I and Class III landfills, recreational activities and related structures will be planned and designed to preserve the integrity of the landfill cap, and prevent puncturing the liner in the case of Class I landfills. For example, trees could be planned on the capped landfill by using plant varieties that have a shallow root system and planting the trees on mounds where an additional three feet of soil will be added above the landfill cap.

The Class I landfill, due to the higher amount of organic matter will generate landfill gas that will be collected and vented or burned in a flare. Presently, the gas is vented, but a flare will be required to control odors, if public access will be allowed on the Class I landfill. The Class III landfill may not generate enough landfill gas to require a landfill gas collection and venting system.

The closed Class I landfill, located on the north side of the paved road and ready for recreational development, has a number of landfill gas vents. Prior to opening this area for recreation, a collection pipe will be installed to connect all the vents and release the gas at a single point with a flare. The flare will burn the gas and prevent odors.

All End Use Plans at the landfill will be submitted to the Florida Department of Environmental Protection for approval per F.A.C. Chapter 62-701.600 Closure Procedures (7).

Long-term care of the landfill will be required by F.A.C. Chapter 62-701.620 Long-Term Care for a minimum of 30 years after closure. This will consist of monitoring and maintenance of the landfill cap, stormwater system, groundwater monitoring wells and other environmental controls. If after 30 years, the solid waste has not stabilized, the long-term care monitoring and maintenance will be continued.

### **SECTION 1.3      EXISTING SITE CONDITIONS**

The existing landfill site is characterized by rolling topography interspersed by large areas of various hardwood vegetation. Over 300 acres of the total  $\pm 600$ -acre site have been untouched by landfill development. Landfill cells are centrally located internal to the site and devoid of vegetation. Existing bands of hardwood canopy vegetation have been preserved to buffer landfill operations from adjacent residential development on the west and U.S. 27 on the south.

Several natural water features have been preserved and are utilized as part of the landfill stormwater management system. A series of drainage canals have been constructed around the landfill cells for run-off collection and conveyance to the existing ponds.

The entire northern boundary is contiguous with Lake Lafayette and has a quality stand of hardwood vegetation located on the topographic relief along the lakefront.

Several large pastoral open space areas remain undeveloped and are located on the western boundary of the site. The miniature radio controlled airplane club currently utilizes one of these  $\pm 15$ -acre pasture parcels for model flying.

The landfill site is adjacent to U.S. 27 on the South, Lake Lafayette on the north and east and a church and large lot residential development on the west. Several large residential and various mixed-use developments are located across U.S. 27 to the south of the property.

Access to the site is from U.S. 27, where the property has one primary entrance located at the southwest corner of the property. An existing 2-lane paved internal loop road provides access to landfill operations through the center of the site.

An existing package water treatment plant is also located in the extreme southeast corner of the site and is privately owned.

Figure 3 - Opportunities and Constraints Plan

**Available for viewing at the reception area on the 5<sup>th</sup> floor of the County Courthouse or at the Public Works Facility at 2280 Miccosukee Road (2<sup>nd</sup> floor).**

## SECTION 1.4 OPPORTUNITIES AND CONSTRAINTS

The ±600-acre landfill site offers exciting opportunities for recreational development. **Figure – 3 - Opportunities and Constraints Map** provides a detailed reference for specific opportunities and constraints and on-site parcels availability for recreational development. On-site issues were evaluated and the following site opportunities and constraints were identified:

### 1. U.S. 27 Access and Site Entrances

The site is located in central southwest Leon County. The location of the site is not in the urban area where population is concentrated. It is assumed that access to the facility will most likely be from vehicles. U.S. 27 provides good regional access to the site from the City of Tallahassee and the rural areas of Leon County and offers an opportunity to develop a recreation facility.

- a. The existing site entrance to the landfill is located in the southwest corner of the site. The existing entrance offers an opportunity to minimize infrastructure cost and utilize this entrance prior to 2015 (projected landfill closing date).

Utilizing the existing landfill entrance as a shared park/landfill entrance until 2015 offers several project constraints. Facility hours of operation, safety and security will need to be defined to minimize cross-access concerns between the park and landfill. This may be addressed through fencing, lighting and strategic placement of recreation facilities to minimize interaction.

- b. A second park access opportunity was identified at the south and west corner property line on U.S. 27. A potential park entrance at this location provides direct access to available land and separates landfill and recreation uses. Constraints include the need to develop a median cut on U.S. 27, additional infrastructure costs required to develop a new entrance and access drive, and shared access with the existing church.
- c. A third opportunity for park entry was identified at the east end of the property on U.S. 27. This location provides an opportunity to access a closed ±14-acre landfill cell directly off of U.S. 27 and minimizes conflicts with existing landfill operations.

### 2. On-Going Landfill Operations

Existing landfill operations are projected to continue until 2015. Phased close-out and shared landfill/recreation use of the property provide the greatest development constraint. Landfill operations must be maintained with limited cross-utilization to maintain the safety and security of the landfill.

Park development on-site prior to 2015 will require careful planning and design features to accommodate controlled access and safety. The Leon County Landfill has currently closed several cells and will continue to progressively close future cells until 2015. Opportunities to develop landfill parcels closest to U.S. 27, away from landfill operations, offer the greatest opportunity for near-term park development. Additionally, proximity to U.S. 27 will minimize development and infrastructure costs.

### **3. Closed Landfill Cells**

Landfills must be closed per F.A.C. Chapter 62-701.610 Closure Procedures, and monitored and maintained for a minimum of 30 years per F.A.C. Chapter 62-701.620 Long-Term Care. Approximately 178 acres of the site was utilized for Class I and III landfilling operations. To date, approximately 72 acres have been capped and closed. At the end of landfilling operations, the total  $\pm 178$  acres will be available for potential recreational use. Placement of active recreation facilities on landfill cells offers the following constraints:

1. Requires a liner cap to allow for the irrigation of any proposed turf areas;
2. Settlement issues require innovative engineering solutions for structures, lighting and parking;
3. Increased development costs;
4. Planting on landfill cells requires additional cap fill;
5. Higher turf and facility maintenance costs; and
6. Increased public access requires additional safety controls.

Furthermore, due to the availability of over 300 acres of undisturbed developable land on-site, it is desirable to locate active recreation facilities off the landfill cell.

Passive recreation facilities are well suited for the top of landfill cells. A Radio Controlled Aircraft Complex, Multi-purpose Trails, Frisbee Golf, and Driving Range and others are representative of relatively passive facilities that require limited structures and parking. Passive facilities can offer interesting recreation facilities within the park at significantly lower development costs.

### **4. Vegetation**

The  $\pm 600$ -acre site offers wonderful natural vegetation areas, which may be utilized to create a memorable park. Features include varied hardwood forest and scenic open pasture. On-site hardwood vegetation buffers the landfill operations and creates distinct character to the site. Opportunities to develop an internal trail system or connect to a future regional trail system are significant.

## 5. Flood Plain Issues

There are no significant flood plain constraints on the landfill site.

The majority of the site has been defined as Zone C on the Flood Insurance Rate Map (FIRM) prepared by the Federal Emergency Management Agency. Zone C is defined as areas of minimal to no flooding.

Several pockets of Zone A occur on-site along pond boundaries and along the entire north and east property boundaries with Lake Lafayette. Zone A is defined as areas within the 100-year flood plain. Development would be restricted in these areas and will require additional permitting for structures and docks.

## 6. Drainage

Maintenance of existing landfill drainage facilities is a limited constraint for development. Several existing drainage swales will require culvert crossings to connect all internal park facilities. In addition, several natural drainage ways and low areas need to be addressed in a new master drainage plan for the future park. Access to Parcel G from Parcel B will require a bridge or culvert to provide access.

Grading and drainage on top of landfill cells will require adequate fill to maintain appropriate drainage from the landfill.

Existing lakes and ponds are viewed as an opportunity in any master storm water management concept. In addition, passive recreation opportunities are apparent when public access is given to these water features.

## 7. Adjacent Residential Development

The adjacent property along the north and east property lines is undeveloped wetlands. Adjacent residential development is located on the south property line across U.S. 27. A church site and large-acre residential home site dominate the west property frontage.

Existing residential development adjacent to the property offers limited constraints for development of the site. Issues such as noise, access, parking and lighting can be addressed through appropriate placement of recreation facilities on-site, cutoff lighting, and vegetative buffers.

## 8. Land Use and Zoning

The landfill site is currently identified on the Future Land Use Map as Institutional, Government Operational. Active/passive recreation is not listed as an allowable use. A Comprehensive Plan map change may be required. A clarification letter from Leon County Planning and Zoning is recommended to determine if active/passive recreation uses are compatible under the Institutional, Government Operational Future Land Use designation. Any required Comprehensive Plan Amendment map change is estimated to take as much as one year to accomplish.

27

Urban Fringe is the zoning classification identified in the Land Development Regulations for the landfill site. Active and passive recreation uses are allowable within this zoning district.

## **9. Utilities**

Water, sewer and electricity are currently available on-site and are not a constraint for additional development.

- a. An 8" force main is centrally located on-site for leachate disposal to a sanitary force main on U.S.27 and is available for disposal of park wastewater, provided a pump station is constructed. As an alternative, septic tanks may be developed for park restrooms.
- b. Electrical and potable water service is available to existing administration and maintenance facilities. In addition, electrical service is available in several locations around the site for miscellaneous use.

## **SECTION 1.5 PROGRAM OPPORTUNITIES**

Several opportunities exist for the development of multi-purpose fields on-site. Discussions with Paul Cozzie, Leon County Parks and Recreation Director, indicated that the area is in need of a lighted practice field for youth sport leagues. The following program elements were identified as opportunities for development on the landfill property:

1. Multi-Use Fields (Lighting Preferred);
2. Courts;
3. Bicycle, Equestrian, and Pedestrian Trails
4. Playground;
5. Driving Range; and
6. Parking.

## **SECTION 1.6 CONCLUSIONS**

The Leon County Solid Waste Management Facility offers tremendous opportunities for conversion to a Leon County Park Facility. The existing vegetative character and topography provide the foundation for a dynamic park with character and appeal. Due to ongoing landfill operations (projected to continue until 2015), active and passive recreation facilities will require strategic planning and placement on-site to minimize interaction with landfiling operations. Phased development of the park, prior to 2015, should also consider convenient access to U.S. 27, safety, security, and the costs of development in the placement of on-site facilities.

Passive and active recreation facilities may be developed on closed landfill cells with appropriate cover, safety and control features. Passive recreation facilities are recommended and generally more well suited for placement on landfill cells, due to the lower anticipated costs of

development and limited safety concerns. In addition, the availability of non-landfill use acreage provides opportunities to locate higher active use recreation off of landfill cells to minimize development costs.